XPERIA™ active

ST17i, ST17a

White paper
August 2011

Sony Ericsson
make.believe

Purpose of this document

Sony Ericsson product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

Document history

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Sony Ericsson Developer World

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Product overview

Xperia™ active

The Xperia™ active is the ultimate smartphone for an active life. The following are its key features:

- Water and dust resistant with exchangeable covers
- Scratch-resistant, multi-touch screen with wet finger tracking
- Reality Display with Mobile BRAVIA® Engine
- On-screen heart rate/pulse monitoring with ANT+*
- Capture your adventures in HD video

Compact, resistant and adaptable

Dust resistant, water resistant (IP67)**, and protected with an aluminium frame, Xperia™ active is optimized for your active lifestyle. If you missed a text or two while you were in the pool, you can scroll through your messages on the scratch-resistant mineral glass display, even if your fingers are wet. Pocket sized and optimised for one-hand use, it is optimised for your active life on the go. Xperia™ active can reinvent itself with a range of exchangeable covers – go back to black in the outback, or show off with fashionable white at work or at a party.

Your personal trainer

Xperia™ active is pre-loaded with sports apps to boost your performance. Open the iMapMyFitness app, then hit the high peaks and monitor your progress. The ANT+ feature lets you gather data from a heart rate monitor. If that's not enough, you've got a compass and GPS navigation to keep you on the right track. With all your fitness apps in one corner, and loads more available from Android Market™***, Xperia™ active is your on call personal trainer that you can count on to help achieve your fitness goals.

Vibrant display for a vibrant life

Film your practice laps in 720 pixel resolution with HD video at 30 frames per second. Or watch mortal combat come to life in true colour on the sharp detail 3-inch HGVA Reality Display with Mobile BRAVIA® Engine. Grab that stunning sunset view while making camp with friends at the top of the peak. It's just a snap away with the 5 megapixel auto focus camera (with photo flash).

Complete kit for your kitbag

Don't train without the right equipment. Choose a phone with all the gear. The included kit comes with an extra white cover; a stereo headset and attachable ear hooks for pounding the pavements; an arm case and wrist strap to keep your phone close; a micro USB cable for managing your media; a 2G memory card for all your entertainment.

** Requires ANT+ compliant chest belt for heart rate and pulse monitoring. Not included in the kit.*
*** It is according to International Protection Rating. IP67, implies that when the phone is correctly mounted to maintain its dust and water resistant qualities, there is no ingress of dust (digit 6) and that ingress of water (digit 7) in harmful quantity shall not be possible if the device is dropped in fresh water under up to 1 m of submersion for a duration of maximum 30 minutes.*

**** Applications from Android Market™ vary widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size – if a representative selection of useful and fun applications is selected – is about 1 MB. This means that, on average, more than 100 applications can be downloaded and used on your phone without negatively impacting performance. With Android Market™ application readily available in the phone, it is easy to delete and later reinstall infrequently used applications.*

Sony Ericsson signature features

Xperia™ active comes with a range of Sony Ericsson features as standard. Below is a summary of the key signature features.

Sony Ericsson Timescape™

The place to meet your friends

The Timescape™ application manages all your communication with one person in one place. You can effortlessly browse by category your Facebook™*, Twitter™, email and text communications, as well as view your photos. Now everything is all together and in chronological order, so you don't have to open different applications to see what's going on.

Sony Ericsson infinite button

Everything you want from everywhere

Tap the infinite button in the Timescape™ application and smart filter each category of communication by person. For example, when viewing a text message from a friend in Timescape™, tap the infinite button to view a list of all chat messages with that friend.

Sony Ericsson Sync

Your mobile life on the web

Synchronise your phone data using Sony Ericsson Sync so that you always have a backup. While you're at it, match your phone contacts with your Facebook™ contacts. All your synchronised phone data is right at your fingertips and in your account on www.sonyericsson.com.

Sony Ericsson Local connectivity

More control over your media

Using Sony Ericsson Local connectivity, you can exercise more control over how media files get transferred and stored. For example, you can select MTP mode to transfer files if you want to limit the risk of data corruption or select MSC mode if you want to have more control over the data storage.

Sony Ericsson Home screen application

The place you call Home

Customise your Home screen with widgets, shortcuts, folders, themes, wallpaper and other items. Where's best for you? Email top right? Music player bottom left? You decide. With four extensions to your Home screen, you've got plenty of space to put things where you want. Just remember to flick left or right to find them.

** This service is not available in all markets.*

Facts – dimensions, weight, performance and networks

Operating system	Google™ Android™ 2.3 (Gingerbread)
Processor	1 GHz Qualcomm Snapdragon MSM8255
Size	55 x 92 x 16.5 mm
Weight	110.8 grams
Available colours	Orange band with black back cover – white extra cover in the kit White band with black back cover – white extra cover in the kit
Main screen	
Colours	16,777,216 colour TFT
Resolution	320x480 pixels
Size (diagonal)	3 inches
Scratch resistant	Yes
Input mechanisms	
Text input	Quick text (Zi), On-screen QWERTY and 12 key
Touch screen	Capacitive (multi-touch), with Wet finger tracking
Touch gesture	Yes – multi-touch
Memory	
Internal phone storage	1 GB (up to 320 MB user-accessible memory)
RAM	512 MB
Expansion slot	microSD™, up to 32 GB
Camera	
Camera resolution	5 megapixel
Digital zoom	8x
Video zoom	16x
Video recording	Yes – HD 720p
Sensors	
Accelerometer	Yes
Proximity sensor	Yes
Ambient light sensor	Yes
Pressure sensor	Yes

Magnetometer	Yes
Networks	
ST17i	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
ST17a	UMTS HSPA 800 (Band V), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
Data transfer speeds	
GSM GPRS	GSM GPRS: Up to 86 kbps
GSM EDGE	GSM EDGE: Up to 237 kbps
UMTS HSPA cat 6 (upload) 6 QPSK	Up to 5.8 Mbps
UMTS HSPA cat 8 (download) 8 QPSK	Up to 7.2 Mbps
Talk time (GSM)	Up to 4 hours 53 min*
Standby time (GSM)	Up to 351 hours* (for 2.9 mA)
Talk time (UMTS)	Up to 5 hours 31 min* (for 181 mA)
Standby time (UMTS)	Up to 335 hours* (for 3.04 mA)
Music listening time	Up to 25 hours
Video playback time	Up to 8 hours 30 min (for 113 mA)
Battery	Removable – 1200 mAh

** Values are according to GSM Association Battery Life Measurement Technique.*

***NOTE**: Battery performance may vary depending on network conditions and configurations, and phone usage.*

Application overview list

Sony Ericsson signature applications

Sony Ericsson Album application
Sony Ericsson Home screen application
Sony Ericsson Music player
Sony Ericsson Timescape™

Sony Ericsson services

Backup and restore
Mac iSync plug-in
Mac Media Sync
Media Go
PC Companion
PlayNow™ Arena Client
PlayNow™ service*
Qriosity™ (SOLS)
TrackID™ application
Sony Ericsson Sync
Walk Mate

Other applications

eCompass™
Facebook™*
iMapMyFitness
Torch application
Wisepilot™ turn-by-turn navigation (free trial version)*

** This service is not available in all markets.*

Categorised feature list

Camera
3D sweep panorama
5 megapixel camera
8x digital zoom
Auto focus
Aperture f/2.6
Face detection
Flash/Photo light
Flash/LED
Geo tagging
HD video recording (720p)
Image stabiliser
Red-eye reduction
Scene detection
Self-timer
Send to web
Smile detection
Sweep panorama
Touch capture
Touch focus
Video light
Video recording

Music
Album art
Bluetooth™ stereo (A2DP)
Media player
Music tones (MP3/AAC)
PlayNow™ service*
Sony Ericsson Music Player
TrackID™ music recognition*
xLOUD™

Internet
Android Market™**
Bookmarks
Google™ search*
Google Voice™ Search*
Pan & zoom
Web browser (WebKit)

Communication
Call list
Conference calls
Facebook™ application*
Facebook inside Xperia™ 2.0
Google Talk™*
Noise Shield
Polyphonic ringtones
Skype™***
Sony Ericsson Timescape™
Speakerphone
Twitter™ (Timescape™ integration)*
Vibrating alert

Messaging
Conversations
Email
Google Mail™*
Instant messaging
Multimedia messaging (MMS)
Predictive text input
Sound recorder
Text messaging (SMS)

Design
Auto rotation
Dust and water resistant
Four-corner Home screen
Keyboard (on-screen, 12 key)
Live wallpaper
Picture wallpaper
Pressure sensor****
Reality Display with Mobile BRAVIA® Engine
Screenshot capturing
Swipe to write
Touch screen
Wet finger tracking

Entertainment

3D games
Accelerated Adobe Flash Video
Health mate
iMapMyFitness
Media browser
Motion gaming
Radio (FM radio with RDS)
Radio (FM)
Sony Entertainment Networks*
Video streaming
Video viewing
Walk Mate
YouTube™*

Organiser

Alarm clock
Calculator
Calendar
Document readers
eCompass™
E-Manual
Flight mode
Google Calendar™*
Google Gallery 3D*
Infinite button
Phonebook
Setup guide
Stopwatch***
Tasks***
Timer***
Torch functionality
Widget manager

Connectivity

3.5 mm audio jack
aGPS*
ANT+
Bluetooth™ technology
DLNA Certified™
Google Latitude™*
Google Maps™ for Mobile
Google Maps™ with Street View*
Media Transfer Protocol support
Micro USB support
Modem
Native USB tethering
Synchronisation via Facebook™*
Synchronisation via Google Sync™*
Synchronisation via Sony Ericsson Sync
Synchronisation with computer
Synchronisation via Microsoft® Exchange ActiveSync®
USB mass storage
USB High speed 2.0 support
USB support
USB OTG
Wi-Fi®
Wi-Fi® Hotspot functionallity
Wisepilot™ turn-by-turn navigation*

** This service is not available in all markets.*

*** Applications from the Android Market™ vary widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications is selected, is about 1 MB. This means that, on average, more than 100 applications can be downloaded and used on your device without negatively impacting performance. With the ready availability of the Android Market™ application in the phone, it is also very easy to delete and later reinstall infrequently used applications.*

**** This feature is not pre-installed.*

***** Enhance your GPS navigation by for example measuring the height levels or to be used as barometer to provide you your local weather forecast.*

Technologies in detail

NOTE: The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Ericsson Developer World or your Sony Ericsson contact person where applicable.

Device-to-device communications (local)

Bluetooth™ wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile V1.2 Audio/Video Remote Control Profile V1.0 Handsfree Profile V1.5 Headset Profile V1.1 Object Push Profile V1.1 Phonebook Access Profile V1.0
Core version and supported core features	Bluetooth™ 2.1 + EDR
Connectable devices	Products supporting at least one of the profiles above

More information:

www.sonyericsson.com/developer

www.bluetooth.com

Wi-Fi®

Supported standards	IEEE 802.11b/g/n and Wi-Fi
Connectable devices	Wi-Fi access points
Frequency band	2.4 GHz
Data transmission rate	Up to 72 Mbps
Security	CCMP (AES) EAP-TLS EAP-TTLS/MSCHAPv2 Open Authentication PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC Shared Authentication TKIP WEP 64 bit WEP 128 bit WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise
Encryption	WEP, TKIP and AES
Power save	WMM-UAPSD QoS, WMM

DLNA Certified™ (Digital Living Home Alliance)

Supported Device Classes	**M-DMS – Mobile Digital Media Server** Media Types: Images Summary: The digital media server exposes the media files in your phone to a Wi-Fi® network. The media files can then be accessed from other DLNA Certified™ clients.
	+PU+ Media Types: Images and Video Summary: Play Media in the phone on other device, such as TV and so on (2 box push). The feature +PU+ is integrated in Gallery application.
Supported Bearers	Wi-Fi®
DRM Support	The Sony Ericsson DLNA Certified™ implementation does not support DRM-protected content.

ANT+

Your phone is equipped with ANT+, which is a function that allows you to connect your phone to different devices within fitness and sports area, for example heart rate monitors.

ANT+ makes your phone compatible with the heart rate monitor. An application is needed for rendering the data that the ANT+ device gathers, for example "iMapMyFitness".

Messaging

MMS (Multimedia Messaging Service)

According to OMA Multimedia Messaging Service v1.0 + SMIL

Email

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	BIG5 Traditional Chinese ISO-2022-JP Japanese ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish KOI8-R Cyrillic Shift_JIS Japanese USASCII UTF-16 UTF-8 Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and STARTTLS
HTML mail	Yes (read only)

More information:

www.sonyericsson.com/developer

www.openmobilealliance.org

Positioning – location based services

Supported standards:

- 3GPP™ Control Plane location (incl. Emergency location)
- OMA Secure User Plane Location (SUPL) v1.0
- Qualcomm® GPSOneXtra™

Supported satellite systems:

GPS

GLONASS*

* ***NOTE****: GPS and GLONASS are used together to calculate the position. With both systems active, the accuracy and robustness of the positioning is better in most conditions. The usage of GLONASS as an additional system is transparent both to users and developers, and the benefits are automatically available to applications currently using the Satellite Positioning API ("GPS Provider" in Android terminology).*

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	**Decoder format**	**Supported in file format**
	Audio decoding MPEG-1/2/2.5, audio layer 3	MP3 (.mp3), 3GPP (.3gp), MP4 (.mp4, .m4a)
	AAC, AAC+, eAAC+	3GPP (.3gp), MP4 (.mp4)
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4)
	General MIDI (GM)	SMF (.mid)
	Linear PCM 16bit	WAV (.wav)
	OTA	OTA (.ota)
	Ogg vorbis	Ogg vorbis (.ogg)
Audio Recording	**Encoder format**	**Supported in file format**
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4), AMR (.amr)
	AMR-NB, AMR-WB, AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps	3GPP (.3gp), MP4 (.mp4)
Image Playback	**Decoder format**	**Supported in file format**
	1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats	BMP (.bmp)
	Single and multi-frame, bitmap mask support (GIF87a format and GIF89a format)	GIF (.gif)
	Joint Photographic Experts Group	JPEG (.jpg)
	Portable Network Graphics Bitmap mask support	PNG (.png)
	Wireless Bitmap	WBMP (.wbmp)
Image Capture	**Encoder format**	**Supported in file format**
	Joint Photographic Experts Group	JPEG (.jpg)
Video Playback	**Decoder format**	**Supported in file format**
	MPEG-4 Visual Simple Profile, Advanced Simple Profile Level 6	3GPP (.3gp), MP4 (.mp4)
	H.264 High Profile Level 3.1	3GPP (.3gp), MP4 (.mp4)
	H.263 Profile 0, Profile 3 Level 70	3GPP (.3gp)
Video Recording	**Encoder format**	**Supported in file format**
	Video: H.263 Profile 0, H.264 Baseline Profile Audio: AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps, AMR-NB	3GPP (.3gp), MP4 (.mp4)

Audio/Video Streaming	Streaming transport	RTSP according to 3GPP™ HTTP streaming
DRM	DRM (Digital Rights Management) – features the rights and copy protection of downloaded content	OMA DRM 1.0

Synchronisation (OMA DS, EAS, Google Sync™)

Google Sync™

Microsoft® Exchange ActiveSync® protocol version 2.5

Microsoft® Exchange ActiveSync® protocol version 12

OMA Data Synchronisation protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0

Related information:

www.sonyericsson.com/developer

Web browser

Browser version	Android 2.3 Browser (Based on WebKit)
Navigation/rendering	Adobe™ Flash™ 10.3* Full page PC rendering Landscape/portrait rendering Pan & Zoom
Search	Internet Search
Browser compliancy	CSS 2.0 CSS 2.1 CSS 3.0 DOM 2.0 DOM 3.0 HTML version 4.0 HTML version 5.0 JavaScript 1.7/ECMA-script 262 3rd edition WebGL 1.0 XHTML Basic version 1.0 XHTML 1.1
Supported Device API	Geo-location API
Protocol Compliancy	Gzip HTTP/1.1 OMA Download 1.0 TLS 1.0 and SSL 3.0

** Updates are distributed via Android market™.*

Related information:

www.sonyericsson.com/developer

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